THE
VETERINARY RECORD.
The Official Journal of the National Veterinary Medical Association of Great Britain and Ireland.
FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 1701. VOL. 33]. FEBRUARY 12, 1921. [NEW SERIES, No. 7, VOL. I.

General Articles.

A Survey of Some Problems confronting the Veterinary Profession.

BY F. T. HARVEY, F.R.C.V.S., St. Columb, Cornwall.

Presidential Address delivered before the Members of the Western Counties Veterinary Medical Association, on November 24th, 1920.

Gentlemen,—I must first thank you for the honour you have done me in electing me your President for the second time. Twenty-two years have passed since my first period of office, and during that year we had the privilege and pleasure of formally inviting the National Association to visit Plymouth, the ultimate meeting proving a most enjoyable and successful one. Elder, Bond, and Bloye, pillars of the Western in those days, are no longer with us, and we are the poorer for their loss.

This is an age of addresses and autobiographies, and the President for the time being of such an Association as ours is expected to pass in review one or more current topics of interest to the profession. I am conscious, however, of the fact that we have an important paper on an interesting subject to be presented to-day, and also that I have already tired your patience somewhat at an earlier meeting.

Living far afield from the storm centres of professional politics, inclination and inexperience alike demand that I should give them a wide berth, but one need not go far for subjects interesting to the general practitioners, and perhaps I may be allowed to deal with a few in a somewhat disjointed manner.

The Veterinary Profession and the Internal Combustion Engine.

Mechanical devices sometimes determine important and far-reaching changes, but they usually do so gradually and almost imperceptibly, and in such cases the professions are generally remotely influenced. Surely in all history a profession can never have been so profoundly affected in so briet a period as has been the case of ours by the advent of the motor-car.

There has been with us a veritable "Shaking of the Walls of Jericho," the effect has been tremendous, and all practices in the land have been widely influenced, and with this of course the practitioners themselves. And the end is not yet.

I doubt, however, whether many of us, in the country at least, would care to become "gigologists" once again, whatever views our brethren in the large cities may hold regarding the question. Few things tend more to develop routine and mental stagnation, and further to suppress initiative than monotony and isolation—the lot of many a rural practitioner in former days. The best part of a life spent in a gig would hardly conduce to high thinking, or to an intimate acquaintance with the ologies, and yet it was a form of hard labour endured by many of us year in and year out. The cold, hard monotony of much of the work killed the dreams and enthusiasms of youth, and too many of us found a place in the tail of the profession.

It would be impossible to allude in an address of this kind to more than a few of what one might term motor influences, ranging as they do from finance to psychology; and it would be equally useless to assume the attitude of a Jeremiah, and bewail the loss of professional work and fees determined by them in certain directions.

Important discoveries or changes are often destructive as well as constructive, or beneficial, in their remote results, and I venture to think that not the least favourable influence exerted on the veterinary profession by the motor-car is that of a quickening process generally from the professional point of view—a process also materially assisted by a wider telephone installation.

The advantages of location, though still obvious, are not quite so manifest as appeared to be the case even a few years ago, residence in a large town not now necessarily involving professional superiority, or the claim to preferential employment and prestige, in the way that it did in our earlier days. Opinionism to-day is of less importance than a cold survey of the facts, obtained after an examination carefully carried out, and this is good for the profession as a whole.

The motor means quicker movement, quicker thought, and better work generally, and from a country practitioner's point of view it has tended to develop the professional side. It has thus brought us advantages as well as disadvantages, and it behoves us to see that we get all the compensation possible from the former, in order to minimise the effects of the latter, and thus emulate our bodies generally, which tend to maintain physiological equilibrium under the most adverse conditions.

It is not only from the point of view of reducing the number of horses, particularly in cities and industrial areas, that horse practice has fallen away on account of the motor. From the epizootiological standpoint, it has brought about a considerable reduction in the sum total of disease seen amongst the remaining equines. This applies particularly to agricultural horses. On many farms they are now practically in quarantine for long periods, and thus escape exposure, whereas in former days they were frequently infected. The saddle or driving horses taken to the market towns were often kept for hours in hotel stables, which were over-crowded, ill ventilated, and often hot-beds of infection; with the result that strangles, catarrh, influenza, or perhaps skin disease might be contracted, and ultimately passed on to the other animals of the farm. The motor, by displacing the driving-horse, has thus tended to check the spread of diseases of the class above alluded to amongst the horse population, and it has also doubly played its part in reducing the spread of glanders.

Late calls and night journeys have fewer terrors for the jaded soul than they had in the olden time, and one may get a fair amount of sleep now even in busy times. Also we may devote more time to particular cases and still keep the work fairly in hand during the day.

On the other side, there is the ever-increasing cost of conducting a practice, and this aspect of the question may give us cause for considerable alarm, especially in the purely agricultural areas. Not only have we a decreased horse population, but we have a corresponding decrease in the amount of disease existing amongst that remaining, so that there is some excuse for those who take a pessimistic view of the future of the profession.

The Future of Veterinary Medicine.

The theme is a fascinating one, for not only veterinary medicine but medicine as a whole is at the present time in the melting pot.

Human medicine tends largely to be engulfed in socialistic legislation and to witness an early disappearance of some of its valued traditions as far as general practice is concerned; while veterinary practice is not only threatened, as we have seen, from the mechanistic side—as expressed in the substitution of motor for horse traction—but also in an attempt to create a sort of glorified "first aid" for animal injuries and diseases on "universal instructor" lines.

The so-called home doctorings is another grandiose expression used by some, in the promotion of a system, ostensibly intended for the benefit of animal owners and the animal world generally, and relief of suffering therein, but which often enough not only produces neither, but an effect the entirely opposite.

First Aid.

The development of a system of first aid in accidents and diseases is a praiseworthy one in every way, both in man and animals. In the former its legitimate objects and limitations are at once recognised; it is a tide-over, pending the arrival of the physician and surgeon, who then takes charge of the case. Public opinion demands such a course, and it can only result, as a rule, to the mutual advantage of the patient and the medical attendant.

First aid, however, in animal injuries and disease passes at once to a different plane, and it becomes a huge complex; for often enough "first aid" becomes "second aid" and "third aid," as perhaps the "aider," or owner, may determine. It covers entirely different diseases and accidents from that found in man, embracing as it does difficulties in parturition, and many of the complications of disease, such as tympany, etc.

It is perhaps due to this fact that lectures on animal "first aid" soon become in reality general lectures on diseases, their diagnosis and treatment.

Other currents are of course operating also in tending to develop amateur veterinary medicine and surgery, such as the innate love of doctoring existing amongst humanity generally, while press agencies, and advertisements of quick relievers and cure-alls of every possible description play no small part.

The feats of diagnosis of some pen practitioners in the lay press, and the advice regarding the line of treatment to be adopted, together with the particular way in which it is to be carried out should a professional man be called in, are often fantastic, apart from their absurdity, and are kinds of procedure which the General Medical Council would not tolerate for five minutes, and yet we seem powerless to prevent them.

In the olden days amateur practitioners frequently came across "worm in the tail," to-day the popular malady is "wooden tongue." I have seen treated as wooden tongue, through lay press advice, a complete hotch-potch of maladies, including Johne's disease, tuberculosis, bronchitis, incisor and molar troubles of various kinds, local paralysis, and œdema.

In the same way there has been a revival of that old and brutal practice of drawing a rope between the claws of cattle suffering from that very painful affection interdigital inflammation:—

> **Heifer's Bad Foot** (STOCKMAN).—Get a piece of old rope about 2ft. long—the thick end of a plough line would do—and dip the middle of it in melted Archangel tar, and draw it through between the claws, so that it comes well in contact with the soft parts which divide them. If you could manage to soak in a bucket of water with a drachm of permanganate of potash to each quart of water before using the tar, it would be still better. I should give a purge of one drachm of nux vomica, one ounce ginger, one ounce nitre, and twelve ounces salts. Glad you succeeded with the other case.—VET.

I think it is a matter for regret that at the present day, when surgery has reached such utilitarian heights, and medicine has so widened its scope, that we should see such persistent attempts to foster amateur veterinary practice—and a good deal of it coming from inside the profession. One division creates unqualified practitioners by employing unqualified assistants, and another endeavours to instruct the crowd how to medicinate and operate, or tries to do so, while the rest of us grumble that things should be so. Thus, men having not the slightest knowledge of technique are advised to carry out certain procedures which are full of pit-falls, even to the surgeon, with the result that simple infections are converted into mixed ones, or not infrequently some other catastrophe happens.

One of these "home-doctors" I saw some time ago had a syringe for injecting the udder carefully wrapped in his pocket-handkerchief, and I have seen two beautiful cows die in a few hours from gangrenous mammitis, supervening on a simple udder trouble, the fatal result being determined by home dabbling.

What stock owners want to realise or to appreciate is that both medicine and surgery are ever at their best when early applied. For I am certain, from a fairly long experience, that the client who gets professional aid early, when disease or accident occurs on his farm, is the one who gets the least trouble and loss amongst his stock.

It is not the well-informed man who is seen attempting all sorts of technical work in the treatment of animals, but the one who thinks that, if a case can once be labelled, anyone can carry on the necessary treatment, regardless of the fact that practically every illness presents some special problem or other requiring experience, or scientific training, to elucidate it.

Another indirect and rather regrettable feature of this modern aspect of veterinary medicine is that it tends to curtail discussion regarding the treatment of disease in the professional journals, and also at meetings, not a few veterinary surgeons object to have their methods of treatment bandied about in the columns of an agricultural paper, and perhaps find their own clients instructed in regard to it.

In all these matters we are at a great disadvantage compared with the medical profession.

Of much hope for the future, however, is the high value now attached to animal life of all kinds and the great worth of animal products of every description.

A rational system of veterinary medicine should have as its aim the prevention or elimination of disease, in at least its grosser forms, and we can imagine the perhaps not distant future when the scientific veterinarian will be largely occupied in this direction and engaged in a smaller area than that in which he now practises, and at the same time receiving a greater emolument. It is certain that the loss of animal life in agricultural areas is greatly in excess of what it should be under ordinary hygienic conditions and good management.

Since the above was written I have seen in the lay press a note on "Lamb Losses after Castration." It says:—"They were presumably big lambs, if castrated at this time of the year, and among such losses are often incurred. The symptoms are those of tetanus. Wash the purses first with one in one thousand of perchloride of mercury in water, and use only the iron, both for the scrotum and the division of the cord."

Ye shades of Lister and of Anæsthetic Bills. To think that a member of the veterinary profession should, in the public press, advise that the red or white hot iron should be put into the hands of Dick, Tom, or Harry, and their tender mercies to be used for opening the scrotum of a lamb, or young sheep, in order that a testicle may be removed. The thick scrotum and highly sensitive organ beneath to be placed in the fiery furnace in order to prevent tetanus. Is this where we are drifting with all our scientific surgery and our boasted humanitarianism? Where does counselling cruelty come in? And we also find advice given to the so-called "veterinary class"

that in some instances a veterinary surgeon may be employed and his mode of operation noted, so that subsequently the operation may be performed by themselves.

We are told that it is better not to notice these things, and that we should pass them by on the other side. In my opinion they are matters which should be considered by the Registration Committee.

Animal Mortality.

I do not mean here what might be termed unfortunate case endings in ordinary practice, as these are not a tenth part of the deaths which actually occur in a district or area; but of animals found dead or dying, of which we see or hear nothing. Or, I might put the matter in another way by saying that during a week in which no case had died as far as I knew, in my practice, several carcases had found their way to the knackers.

I was much struck the other day by the observation of R. BRANFORD, M.R.C.V.S., of the Government Cattle Farm, Hissar, India, that adult sheep may die quite suddenly from the effects of *Hæmonchus contortus*, the stomach worm.

The study of so-called sudden death in animals in this country is nearly always limited to an enquiry as to the existence of anthrax, or lightning stroke. This is a mistake; and with the training the younger graduates now receive, a field of enquiry might be opened up which would yield useful results if more of these fatalities were investigated.

It would seem advisable for each agricultural area or district to have its animal mortuary, or knackery, to give it a more conventional term, and it could be run on co-operative lines. The district veterinary surgeon would thus have the material at hand for the study of disease occurring locally, and thus there might arise a new set of animal death statistics for counties, or for the whole country.

The veterinarian who would eliminate or prevent disease must have opportunities of observing its end, death, or the finish. For:—"The gradual evolution of medicine has shown that disease can best be studied by starting at the end" (MACKENZIE).

This is even more true in animal than in human medicine, because in the former, disease more often assumes what one may term the avalanche form. Here the stages—pre-disposing, early, advanced and final—develop so rapidly that the animal is dead or almost dead ere it is seen to be unwell.

Many such cases are regarded as examples of sudden death, but they are often endings of acute illnesses which have been entirely overlooked. In this way the expression "sudden death" among animals may be capable of an entirely different interpretation to that usually given to it in man, where cerebral hæmorrhage and heart failure are the causes of sudden death. In the majority of cases of so-called sudden death in animals, neither of these latter conditions can be said to have been primarily operative.

A good example of an occurrence resulting frequently in a very quick death is found in lambs. In such cases one often finds a small concretion or bezoar, firmly fixed or jammed against the pyloric sphincter, the latter being extraordinarily well developed in lambs. When impinged against the sphincter a complete obstruction results, and the lamb quickly dies if not relieved. I have often wondered if, the relief which STEEL, quoting from RANDALL (Diseases of Sheep) alludes to, as promptly following the holding up of the lamb by the hind legs in cases of obstruction, is due to this position causing the so-called bezoar to fall or travel away from the pylorus, and thus effect relief.

A sudden death in the case of an animal may be the first warning we have of the existence of a specific or contagious disease; while in man it is as a rule the harbinger of decay.

It would seem that the centres most suitable for the study of human diseases, such as large cities, or densely populated areas, are not the ones best suited for investigating animal maladies. The country offers a magnificent field for the study of disease with us, but I am afraid we do not always make the best use of our opportunities.

Over-crowding and under-housing of the populace are features associated with towns; over-stocking, under-feeding, and bad housing of animals are conditions of the country. Parasitism with food shortage and dietetic errors are, in our patients, the most potent killing agencies; in man, want of sunlight, of clear air, of food accessories, combined with wear and tear, are the great predisposers to disease.

The "natural history" of disease has in past years been neglected in the rush for bacteriology, but now all the world over there are signs that the balance is to be restored, and that the patient—animal or man—as well as the organism he carries in his tissues for the time being, must be studied if the best results are to be obtained.

The Board of Examiners.

I did not intend to allude to any question of a political character in my remarks to-day, but quite suddenly the constitution of the Examining Board of the Royal College has assumed a controversial character and seems likely to develop into a burning question in the near future.

In the opinion of some men the roll of Fellows is too small to allow the Council anything like a wide range from which to draw suitable men to act as examiners, and I believe it is considered that examinerships should be open to all members of the College in consequence. A still more radical change has been proposed in the direction of conferring examining powers on teachers or professors.

I do not think it matters one iota as regards the examining board, whether the position of examiner is thrown open to both members and fellows, or remains as it is, so long as the present policy or practice of the Council is pursued.

The constitution of the Royal College is arranged, on the whole, on democratic lines, and yet we are probably one of the most conservative bodies in the world, since all offices tend to become more or less life-long appointments.

In what other profession can we find one man continuously examining at one table for perhaps twenty years or more without a break? What encouragement is there to the graduate, who perhaps possesses ambition and ability, to prepare himself, after some years of practice, for a seat on the Board, when so few appointments are made, or likely to become open? Would it not be better to have three examiners instead of two, and let them work alternately somewhat after the manner of the examiners at the London shows? Let the Council encourage ambition, and keep the Board from lapsing into a state of staleness, by replacing examiners after five or seven years, and re-appointing them again later if it is found desirable to do so.

I firmly believe that the tendency of our Council to treat the examinerships as more or less life appointments tends to turn a good deal of teaching or instruction in the Colleges into a system of cram. Teachers teach to the examiners, learn their fads and peculiarities, and in time an all-round staleness develops.

If the opening of examinerships to the members generally (and perhaps in view of the fact that an annual fee has to be paid in the future by all on the Register, it is only fair that they should be so opened) will result in a broader and more progressive policy in the selection of examiners, by all means let it go forward.

It certainly is a reflection on the body of men in active practice in Great Britain that it should be necessary to pull men out of retirement to fill such offices when they do become vacant. I always feel somewhat sympathetic towards those good men who perhaps suddenly appear from out of the more or less unknown, and brave the lions in their den at Red Lion Square (to speak figuratively, and not disrespectfully), and send their names forward

for a seat on the Examining Board. Result—one or two votes, while the old stagers regularly come off with their poll of thirty or more.

Is it to be wondered at that men are shy of Red Lion Square, when they are made to feel that they have not only failed to secure election, but that they have suffered annihilation in the process? Why should such figures be published? They certainly cannot be any gauge of the relative merits of the respective candidates. Rather are they to be regarded as an expression of the practice of no change usually adopted by the Council, and is it not a pity to destroy budding and honourable ambitions in so crushing a manner?

There is a good deal to be said in favour of having teachers on examining boards, but the practice bristles with difficulties. There would certainly have to be some alteration in the method of appointing teachers and the fixing of their status from that which obtains with us at the present time before the principle could be accepted in its entirety.

I think a sort of conjoint board, composed of teachers and elected examiners, might with advantage be put into operation, and this could be done irrespective of any question of obtaining a new charter. Its powers or deliberations might be of a consultative character, the final decision ultimately resting with the elected examiners.

There is certainly a danger of a good student going down with an examiner suffering from "swelled head," or one having a tendency to become aggressive, and a teacher knowing, perhaps, the temperament of such a student might act as a "moderator band" and prevent a possible injustice. Moreover, the ever-increasing importance of technique—bacteriological, surgical and medical—and the great range of many of the subjects dealt with, may in the future necessitate, or render expedient, the presence of the teacher at the examining table.

But the admission of teachers as official examiners may perhaps suggest the cry, "More power to the Professors." Do they not already dominate the situation? They do, undoubtedly, and have always done so in the veterinary profession. It is purely a case of merit, energy, ability and momentum—or whatever term we choose to use—being put into action on the one side, while with the majority of practitioners there is apathy, inertia or indifference, and a tendency to follow tradition.

Professors teach us how to qualify as practitioners, and to many of us form our sole source of inspiration in after life as regards scientific advancement. Thus in looking back we find particular periods of our history constantly associated with certain names of teachers. For example, at one period the men of the north always, or frequently, quoted DICK or WILLIAMS; those of the south, SPOONER or PRITCHARD; and have we not always had certain men in the colleges wielding great influence in shaping professional policy?

It is perhaps owing to this fact that we frequently hear it stated that this one, or that, has too much power, and that the profession is being run by three or four men, and that cliques, or parties, abound in the Council Chamber. But if such things exist, are they not of our own making?

The election of the Council is carried out by the profession as a whole, and no single member can be regarded as representing a particular school party.

But we certainly do see certain gentlemen's names constantly appearing as proposers or seconders of candidates for seats on the Council, and no doubt the halos existing in certain quarters are regarded as a valuable electioneering commodity, and may render an active canvass unnecessary for success at the polls. In such a case we might regard a candidate obtaining a seat under these auspices as being more of a member for his professor than a representative of the profession at large. But would it not be better if societies generally took more intesest in the election of the Council?

This would of course involve a good deal of organisation and it appears too much to expect in these days that men engaged in active practice and living far from London, will frequently become candidates for Council in the absence of some form of assistance, financial or otherwise. Why should they?

Here, again, the societies should step in on an organised plan.

Time was when a number of practitioners, by employing one or two assistants, could get fat; and they might then, in time, feel disposed at intervals to leave behind them their day books and ledgers, and find a seat on the Council. To-day the struggle for survival is keener; the assistant is disappearing, the fat is thinner, and the Council prospect fades away. But representation on our Boards must go on, and it should be vigorous and broad, and men are likely to be of most use, both in the Council Chamber and at the Examining Boards, who are engaged in active professional work of some kind.

If such are not found in those positions in good proportion, the fault will be with the rank and file of the profession. Continuity in office is sometimes useful and necessary, but it may be purchased at too high a price when followed sedulously.

And now I will bring these rambling remarks to an end. If I have infected wounds, I tender my most profound apologies. For once I have seized the privileges of the Chair and given vent to some thoughts; but I am happier when pondering over clinical matters.

Braxy Investigations in Scotland.

"Sheep Diseases" was the subject of a lecture by Professor G. H. Gaiger, delivered on January 26th, under the auspices of the Glasgow and West of Scotland Agricultural Discussion Society, in the Religious Institution Rooms, Glasgow. Mr. James Gardner presided. Professor Gaiger dealt chiefly with braxy and the work done in connection with this disease at Glasgow Veterinary College. Describing the achievements in the Research Laboratory of the College, founded in 1917, he said that since the start efforts had been made to obtain all available literature on braxy, and the methods of workers in various countries had been carefully gone into. This study and his experience with other diseases of sheep led him to the very definite understanding that all conclusions upon braxy must be open to the gravest doubts so long as the work was based upon braxy sheep found dead. All the work upon braxy in his inquiry was founded only on the examination of cases found alive. These cases would preferably be destroyed for examination and dealt with immediately, and some would be allowed to die and then be dealt with at once. He went on to describe the investigations that were carried out. The results of the work were that the plans had succeeded almost beyond his expectations. Ten cases were obtained alive and dealt with, and in all ten cases the same bacterium was obtained in pure culture. This constancy of results was alone a sufficient cause for a feeling of deep satisfaction, but it was also an important result that the findings of the field laboratory were borne out in their entirety by the findings of the central laboratory in Glasgow. In every particular the results were identical. Further, a special artificial medium was found to be especially suitable for the growth of causal bacterium. The organism could not be cultivated on the media in common use in all laboratories. With the causal bacterium in their possession, and with an artificial medium entirely suitable for its propagation, they were now in a position to go ahead in their search for a preventive. Time was not being wasted upon any work which did not directly bear upon prevention. Hoggs were urgently needed for experimental tests, and naturally they were wanted from non-braxy areas, in order that they should have no degree of immunity to the disease. An appeal for such hoggs had been issued. The particulars of the causal organism would be kept secret until some future date, said Professor Gaiger, but he would give a few items of interest. The bacterium had been found not to correspond exactly with any known organism. It corresponded with a certain type of organism, which would make it of interest to veterinarians in general and to bacteriologists in particular. It was an organism for which it was very highly probable that in time an effective preventive would be found.—*Glasgow Herald*, January 27th.

The Veterinary Record.

12th February, 1921.

ARMY VETERINARY CORPS, INDIA.

The formation of the Army Veterinary Corps, India, at last provides a self-contained service for the staffing of Military Veterinary Hospitals in that country in peace and personnel for the veterinary units in war. This is the final step in the movement which was first initiated when the veterinary charge of the Indian mounted units was definitely taken over by the Royal Army Veterinary Corps in 1917, and India veterinary assistants ceased to be regimental personnel and were formed into a Corps under the R.A.V.C. The formation of Mobile Veterinary Sections for service on the Indian frontier and Indian Field Veterinary Sections for the treatment of camels was the next step in the rapid advances which the veterinary service has made since it was permitted to show the great saving in animal wastage which it was capable of bringing about when given its own personnel and allowed to function during active service conditions on the Indian frontier on the same lines as the home organization, which proved so invaluable during the Great War.

We congratulate our confrères in the R.A.V.C. in at last having, by their great work on every front during the world war, convinced the Indian Government that the co-ordinated control of animal disease and prevention of animal wastage can only be obtained by placing preventive veterinary medicine in the hands of a properly-organised veterinary service. The Indian Government has paid very heavily for its want of progress in both medical and veterinary organisation, and it is only during the last few years that it has been compelled by the breakdown of its medical organisation, resulting in great human suffering and loss of life in Mesopotamia and on the Indian frontier, and the enormous animal wastage which took place under its inadequate veterinary organisation, to modernise both its medical and veterinary service.

The formation of the Indian Veterinary Corps is the outcome of years of hard work. At the end of the Afghan campaign of 1878-9 it became very evident that India could not supply sufficient animals for another campaign of similar dimensions unless steps were taken to control such extravagant wastage of animal life as had taken place in this comparatively small war.

After much explanation and representation, the first veterinary units in the shape of Indian Field Veterinary Sections for war were organised and veterinary hospitals for the treatment of the sick animals of British units in peace were formed in 1886, when the late Colonel OLIPHANT was Principal Veterinary Officer in India. Even then the Indian Government only met the requirements of the Veterinary Service in a very half-hearted manner, and under a wave of false economy, robbed regimental establishments to provide the "other rank" European and Indian personnel for these new veterinary units, while the animals of Indian units only came under the control of the Army Veterinary Department officers when war broke out. Regimental veterinary assistants remained nominally in veterinary charge of the animals in peace. We say nominally, as whenever contagious disease was suspected, the R.A.V.C. officers in charge of neighbouring British mounted units were called in.

This unsatisfactory arrangement existed right up to the outbreak of the Great War, when the veterinary units sent overseas with the Indian troops were brought in to line with the home veterinary service, by being strengthened with "other rank" personnel from the Royal Army Veterinary Corps. These units did remarkably good work, but India was left with practically no R.A.V.C. officers, no trained subordinate other rank personnel, and very few veterinary assistants. The strain thrown on the few veterinary officers left in India was at breaking point up to 1918, when it was relieved by a large number of officers, R.A.V.C. being sent out from England.

The present organisation will enable India to make due provision for a properly-organised veterinary service for any future wars, and never again should animal suffering and animal wastage reach the appalling heights they have done in the past. The credit due to those who have worked loyally to bring this great endeavour to a successful issue is very great, and we heartily congratulate them one and all.

There is only one point regarding which we are sceptical, and that is the absorption, if this is possible, of officers of the R.A.V.C. on a tour of service in India into the new Army Veterinary Corps. With the present very unsatisfactory state of the Indian Medical Service before us, we sincerely hope that a similar fate does not now await our confrères in the R.A.V.C. serving in India.

Abstracts and Reviews.

IMMUNISATION AGAINST CONTAGIOUS ABORTION.

Investigations conducted by the Imperial Bureau of Health, Berlin.

BANG's discovery of the bacillus of contagious abortion (1897) opened up a great field for immunisation experiments, and the fact that aborted cows seemed to become immune gave encouragement to investigators.

BANG himself tried to produce immunity with the bacilli, both living and dead. His final conclusions were that living organisms would produce a much stronger immunity, although even dead organisms were useful to some small degree.

These views were confirmed by the English CONTAGIOUS ABORTION COMMITTEE (1906). The best results were obtained when non-pregnant cows were inoculated with living bacilli and were then left some months before they were sent to the bull. In these circumstances even the most determined efforts to cause abortion by feeding the pregnant cows with abortion bacilli failed.

Serum treatment to produce passive immunity was first tried by NIELSEN, but the results were not encouraging. Similarly serum followed by live bacilli had given very equivocal information.

The object of the researches published in this article has been to investigate thoroughly all conceivable methods of immunisation and to find the method which will be of most practical use.

Eighty infected herds, with a total of 3,006 cows, were treated, and the following immunising agents were employed :—

(1)—*Living organisms*. Used only for non-pregnant cows, some of which had previously aborted and some which had not.

(2)—*Dead organisms*. Used for already pregnant cows and for some not pregnant. Two doses were given with an interval of 4—8 weeks.

(3)—*Living organisms + Anti-serum*. Used for pregnant cows to obtain active immunity without causing abortion.

(4)—*Dead organisms + Anti-serum*. Also for pregnant cows.

(5)—*Attenuated Culture*. (Living organisms heated at 50° C. for 2½ hours.) Used in the case of calves and yearling heifers.

(6)—*Immune Serum*. Used for infected cows in an advanced stage of pregnancy to try to prevent abortion.

(7)—*Plain Broth*. Employed as a control.

In all cases the materials were injected subcutaneously, and of the 3,006 cows observed, about 50 per cent. were only given plain broth ; in fact, half the cows in each herd were not treated. Thus the experimenters had an ample number of untreated animals in each herd with which to compare the treated ones. Any external factors could therefore not influence the value of the observed results of the inoculations.

Details of the results in each herd individually show widely varying results ; in some herds abortion disappeared, in some there was a decrease, in others there seemed to be no change either way, while in a few there was an actual increase.

A comprehensive view of the whole field, however, gives a much clearer impression.

Of the 3,006 cows under consideration 758 aborted before treatment and 442 after treatment. These figures include abortions in the 1,300 odd control cows also, which were not treated with any vaccine or serum. Of the inoculated cows 177 only aborted.

As a result of all the methods taken together over a wide field there was a net decrease in abortion.

Of all the methods treatment with living organisms gave the best results. Among the cows given living organisms alone there was subsequent abortion in only 5·8 per cent., and of those given living organisms and serum only 5·26 per cent. aborted. Of those given dead culture alone or with serum 12 per cent. aborted. Of those given serum alone 53 per cent. aborted. This high percentage of abortions following serum treatment is to be considered alongside the fact that all 17 cows so treated were in an advanced stage of pregnancy and probably also of infection.

The conclusions as to the value of the individual methods are as follows :—

(1)—*Dead organisms*. Both in non-pregnant and pregnant cows, some degree of immunity is produced ; it is, however, of low degree and of short duration. For example, many cows did not abort at the first calving after this method of treatment, but did so at the second.

(2)—*Dead organisms +Serum*. Similar conclusions to those of dead organisms alone.

(3)—*Living organisms*. Better results in all circumstances than with dead organisms. Of 128 cows so treated which had previously aborted, and were therefore definitely infected, only 6 aborted afterwards.

Better results were also obtained in preventing abortion in cows which had not previously aborted, but were in-contacts.

(4)—*Living organisms + Serum*. In the case of non-pregnant cows the results were as for living organisms alone. This method was also proved useful for the prevention of abortion in pregnant cows ; in fact, this method caused as great a reduction in abortion among pregnant cows as did living organisms alone among the non-pregnant ones.

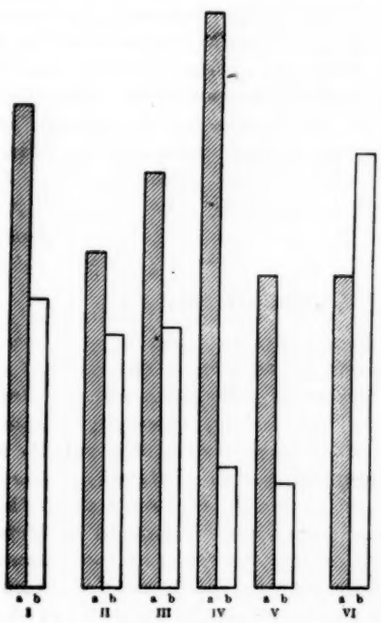
(5)—*Controls (Plain Broth)*. Among the animals not inoculated there was an *increase* in the number of abortions from 175 to 245.

The recommendations as to the methods to be used are that living organisms are indicated in the case of non-pregnant cows, and living organisms +serum in the case of pregnant cows. (For one dose a week-old growth from two agar tubes emulsified in normal saline was used. The dose of serum was 100 c.c.) Dead cultures, alone or with serum, are of little use, and serum alone is practically useless.

Attenuated cultures, as given to immature animals, are worthy of but little consideration. The calves and yearlings so treated had not attained a sufficient degree of sexual maturity to be reliable subjects for the experiments.

The accompanying table and diagram show the aggregate results very clearly.

Immunising Material employed.	Abortion before treatment %	Abortion after treatment %	Increase or Decrease.
Dead organisms, 2 doses, with 4—8 weeks' interval ...	18·51	13·20	D. 164—117
Dead organisms +Serum ...	21·76	13·60	D. 32—20
Living organisms, 1 dose ...	29·09	6·36	D. 128—28
Living organisms +Serum ...	16·36	5·45	D. 9—3
Controls (Plain Broth) ...	16·31	22·68	I. 175—245



Ref. I. *a* Total abortions before inoculation.
b „ „ after „
II. *a* Number of abortions before inoculation with dead organisms.
b Number of abortions after inoculation with dead organisms.
III. *a* Number of abortions before inoculation with dead organisms +serum.
b Number of abortions after inoculation with dead organisms +serum.
IV. *a* Number of abortions before inoculation with living organisms.
b Number of abortions after inoculation with living organisms.
V. *a* Number of abortions before inoculation with living organisms +serum.
b Number of abortions after inoculation with living organisms +serum.
VI. *a* Abortion in control animals before inoculations.
b Abortion in control animals after inoculations.

Apart from the direct results obtained by the various methods of inoculation, the article deals with many other associated points of considerable interest.

It is shown that age has no bearing either on susceptibility to the disease or to immunisation, provided always that the animals are of sexual maturity.

The most common time for abortion is shown to be the seventh month of pregnancy with the eighth and sixth months next in order. This is in confirmation of previous statements by other investigators.

Pregnancy, it is observed, plays an important part in the production of immunity. It is assumed that the cells of the uterus and placenta are in large part responsible for the manufacture of immune bodies. Moreover, continuous natural infection will produce immunity; it is well known that although a cow may abort once or twice, a third abortion is rare, and a fourth exceptional.

"Carriers" as a continuous source of infection are also considered. It was found that the milk of a cow which had aborted might contain abortion bacilli after a lapse of three years. Moreover, it was shown that calves fed on this milk would probably not acquire immunity; they were in fact much more liable to be ordinarily infected, so that they might subsequently abort.

The danger in this direction from cows immunised with living organisms has not yet been definitely ascertained. BANG originally considered that the danger would be small if a period of two months elapsed between inoculation and service by the bull, and the results of these experiments tend to confirm that view.

The duration of immunity conferred by inoculation has apparently not been decided by these investigations. The only certain way of keeping down abortion in an infected herd, if the affected cows cannot be kept rigidly separated, is to practise repeated inoculations over a period of years, the pregnant cows receiving living organisms + serum and the non-pregnant ones living organisms alone.

Sequelæ of contagious abortion seem to be favourably influenced by inoculation; certainly cases of retained placenta diminish as well as cases of abortion.

Scour, which causes such great mortality among calves in infected herds, is benefited by injection of anti-abortion serum. Of 76 calves so treated in these experiments only three died of scour, and all of these proved to be due to causes other than *B. abortus*.

A general view of all the foregoing inoculations demonstrates the extreme safety of inoculation; practically no untoward results were observed. An important precaution, however, is to take care that non-pregnant cows inoculated with living organisms do not go to the bull for at least two months.—(ZWICK, ZELLER, KRAGE, AND GMINDER, *Arbeiten aus dem Reichgesundheitsamte*, 1920. Vol. 52. No. 3, pp. 375—467.)

S. C. J. BENNETT.

The Chlorine Disinfectants.

During the great war no class of antiseptics was more extensively employed in the treatment of wound infections than the so-called "chlorine antiseptics." As may be seen from a perusal of the various publications of CARREL and his colleagues, they proved to be of great value from the surgical standpoint, when properly used.

Information was still lacking, however, with regard to the value of these preparations for what may be called general disinfection, and investigations were carried out by TILLEY, of the U.S.A. Bureau of Animal Industry, with a view to obtaining some knowledge upon this point.

The preparations actually tested were: (1) Chloramine T; (2) Dakin's solution (NaOCl); (3) eusol (HOCl), and (4) chlorine.

Chloramine T is the abbreviated name given by DAKIN to sodium-toluene-sulphon-chloramide—a white crystalline solid, with a faint odour of chlorine, containing 12·6 per cent. of chlorine and readily soluble in water. The material used by Tilley was obtained under the trade name "Chlorazene," and it contained 25 per cent. "available chlorine," corresponding with 12·5 per cent. of actual chlorine.

"Dakin's solution" was a neutral solution of sodium hypochlorite, prepared, according to the methods described by DAKIN and DUNHAM, by the addition of boric acid to the product formed by the action of sodium carbonate or bicarbonate on bleaching powder in watery solution.

"Eusol" signified a solution prepared from bleaching powder in watery solution by the addition of an equal amount of boric acid.

Chlorine was used in the experiments in the form of a standardised watery solution.

The germicidal value of these preparations was tested by exposing certain micro-organisms to solutions of various strengths for different periods of time. In order to test their efficacy in the presence of organic matter, the disinfectant solutions were mixed with certain proportions of horse serum and then placed in contact with the germ cultures. The addition of ammonia has been alleged to increase greatly the germicidal efficiency of hypochlorite solutions, and further experiments were performed by Tilley, in order to verify these findings.

The organisms used were *Staphylococcus aureus* (the commonest germ in wound pus), *Bacillus pyocyaneus* (of "green" pus), the typhoid bacillus, anthrax spores, and the tubercle bacillus.

It was found from these experiments that chloramine T was less efficient than the other preparations, judged on a basis of weight of chlorine in each. But if the comparison were made on the basis of "available chlorine" in each, then chloramine T was much more efficient against *Staph. aurens* than the others were, but it was much less efficient against *B. pyocyaneus*, and of approximately equal value against the typhoid bacillus.

Experiments upon the tubercle bacillus indicated that the chlorine disinfectants were worth very little so far as this organism was concerned. This is not surprising in view of the fact that antiformin (NaOCl + NaOH) is used in isolating tubercle bacilli.

There was seen throughout a more or less marked "selective action" on the part of the various disinfectants. This was especially well seen in the extremely high value of chloramine T against *Staph. aurens*, as compared with its extremely low value against *B. pyocyaneus*.

Tests of germicidal action upon anthrax spores showed that their action is not always so speedy as it is commonly supposed to be, and that it may extend over several days.

The addition of ammonia was proved to increase very greatly the activity of the preparations, and it tended to prevent diminution in activity when they were allowed to act in the presence of organic matter.

In the ordinary work of routine disinfection, such as the disinfection of cattle trucks and cattle pens, there is always a large amount of organic matter present. The author's experiments make it evident, however, that the chlorine disinfectants suffer an enormous diminution in germicidal value when they are placed in the presence of organic matter. Their injurious effects upon metals and fabrics are well known. It would therefore appear that as a class they are not suited for use in the usual conditions and by the usual methods of general disinfection.

This does not mean to say that when properly used they are not efficient in the treatment of infected wounds. On the contrary, the available evidence goes to show that they are of great value when so used; and, moreover, chlorine and hypochlorites are being widely and successfully used for the disinfection of drinking water.

[F. W. TILLEY, Investigations of the germicidal value of some of the Chlorin Disinfectants. *Jl. Agric. Research*, 1920, October 15th. Vol. 20, No. 4, pp. 85-110.]

T. J. BOSWORTH.

Veterinary Physiology.*

The appearance of a new edition of this well-known work is something of an event in the annals of veterinary science. Workers all over the world are studying the phenomena of life, and no veterinary practitioner, or laboratory worker can afford to ignore entirely the results of their experiments and observations. We are indebted to General Sir F. Smith for undertaking the task of collecting from such a mass of material the facts of which a knowledge furnishes the only sure foundation on which rational practice can be based, and for presenting such facts in a manner assimilable by the rank and file. During his fruitful life the author has made many original contributions to our knowledge of veterinary physiology, both by direct experiment and by interpretation of well-known, but previously unexplained, phenomena into terms of intelligible science. He is thus well qualified to act as the guide of those who must take his information on trust.

Of matters relating to equine physiology he writes with a sure hand, but a note of hesitation may be detected in some of his statements concerning bovines. Thus (p. 7) he states that "rouleaux formation is not marked in horses' blood." It may not be, but it is far less marked in bovine blood. Also the remark (p. 318) that "sweating from the general surface of the ox's body has occasionally

* *A Manual of Veterinary Physiology.*—By Maj.-Gen. Sir F. SMITH K.C.M.G. Fifth Edition. Pp. xlii. + 892. (London: Bailliere, Tindall & Cox, 1921.) Price, 31s. 6d. net.

been observed " does not carry much conviction to those of us who have had extensive experience of ox transport.

The chapters which are likely to be most frequently consulted are those on digestion, nutrition, locomotor system, and the foot, and all of which are of a very high standard. The section dealing with sight is also worthy of special mention. The chapter on generation and development is very interesting, although in attempting to be brief, the author sometimes fails to make his meaning clear; this is especially noticeable in the paragraphs dealing with causation of sex (p. 782). Also, contrary to the statement on p. 747, transplanted ovaries may actually produce fertilisable ova.

The chapter on the Nervous System has been brought well up to date, but exception must be taken to the definition of a nerve-cell (p. 466), since MOTT has shown that neurofibrils cannot be found in the living cell. Also the statement (p. 472) regarding the length of time it takes for sensation to be restored after nerve-suture might be revised in view of such cases as that reported in the *Lancet* (1920, ii., 999).

On account of their great importance we should have liked to have seen a little more space given to the subject of endocrine organs. One wonders why the pineal body (p. 306) should be described as a physiological enigma, and not as an anatomical vestige. Also, from his own remarks (p. 303) on what happens when it is removed, one is surprised that the author should say that nothing is known of the function of the thymus; surely its purpose is to inhibit the growth of the gonads until soma and environment are suitable for reproduction.

The first chapter, on Blood, is probably the weakest in the book, and we hope that the next edition will not sum up the subject of the origin of white corpuscles in three lines to the effect that " the origin of the lymphocytes and leucocytes has been variously attributed to lymphatic tissue and bone-marrow, but very little is at present known of the subject " (p. 17). Also we consider that the mean number of erythrocytes per c.mm. in the ox's blood is greater than that given (p. 7).

Conspicuous throughout the book are the references made to the work of the late Professor G. COLIN. Apparently only one eminent veterinary physiologist appears in each generation. Our race is fortunate in possessing the best of our own day and generation in the person of General Sir F. SMITH, and although the day may be fast approaching when his work must close (his own words, p. x.), we hope and believe that it is still a very long way off.

The book is completed by an excellent index compiled by Mrs. F. BULLOCK, M.A. H. E. H.

Some Biological Aspects of Disease.*

BY PROFESSOR J. B. FARMER, M.A., D.SC., F.R.S.

The lecturer stated in his introductory remarks that he proposed to dwell on certain peculiarities or properties of the higher organisms with which healthy and normal discharge of function is intimately connected. The illustrations of the points raised in the lecture were largely chosen from a consideration of examples drawn from the plant kingdom. This was done partly because, from an experimental point of view, plants are more readily accessible than animals, and partly because the things of most fundamental importance are those which are common alike to animals and plants.

Although our knowledge as yet is but relatively small, an outstanding fact is this: that one part of the organism can, and habitually does, influence other parts, limiting and directing their possibilities of growth, and determining the particular mode of development which will be actually followed in any given individual. It was shown by means of a number of examples drawn from the study of plants, and supplemented by others from the animal kingdom, how the organisation of an individual depends on the mutual influence of its constituent cells one upon another. The co-ordinated growth which leads to the development of a particular form depends on the serial (or sequential) nature of the reactions which go on in the cells and tissues of the organism. An intelligent recognition of this, and of the consequences which flow from it, is essential to a proper appreciation of the larger problems, both of health and disease; for anything which can modify the chemical changes which are concerned in the production of a " normal " organ or tissue is reflected in a departure, to a greater or less extent, from the particular form or structure normal for that organ or tissue.

It was shown by a consideration of selected examples how differences in chemical or physical environment may produce definite changes in the organism subjected to them. It must not, however, be concluded from this that it is the external conditions alone that matter. A closer analysis of the facts emphasises the essential point that it is only when the environment is able to interfere, so to speak, with the *protoplasm itself* that a response of the kind can be obtained. In other words, the course of development in any given individual is only subject to modification by external conditions, in so far as it is itself susceptible to influence by the special physical conditions or chemical operations that are going on around it.

Again, on the one hand, the effects of temporary isolation of parts of the body from the material influences exerted by adjacent parts may result in a permanent loosening of those ties which previously served to knit the constituent cells into a coherent organism. On the other hand, union of parts hitherto separate may result in the formation of a synthetic new organism, different from those from which it—the new organism—has been built up. Lichens afford a striking illustration of this. Other illustrations are provided in the new relations which may be established between fungi snd roots or other parts of the higher plants.

Further aspects of the matter are opened up by a consideration of the various abnormal growths which can definitely be traced to the substances injected by parasitic animals, and a study of the formation of vegetable galls affords a suggestive outlook on the consequences of the mutual relations here established between parasite and host.

From the foregoing conclusions the lecturer passed on to a brief discussion of those various abnormal growths, or neoplasms, which originate as the result of obscure

* Chadwick Public Lecture—London, 1920, in the Lecture Hall, Medical Society of London, Chandos Street, Cavendish Square, Thursday, November 25th, 5-15 p.m. Sir William J. Collins, K.C.V.O., M.D., M.S., Chairmen of the Chadwick Trustees, in the Chair.

changes taking place within the cells themselves, and he went on to give a brief survey of what appear to be the essential features of malignant growths.

An attempt was made to sketch in outline a plan of research for the advancement of our knowledge as to the causes of cancer. The problems presented by malignant growths are biological problems of the first magnitude. They demand—if they are ever to be successfully solved—a combination of the forces contributed by first rate investigators, who will have to deal with the problems from a considerable variety of points of view—chemical, cytological, physiological and clinical. It is upon the results of *well-organised* research on the part of investigators covering a wide range of subjects that hope for discovery of the causes of this biological disease and of its ultimate control must depend. The investigators themselves will have to be wisely and carefully chosen and amply supported; and if the final solution of the problem should still be far off, it is certain that the additional knowledge acquired by the way will repay the outlay many times over.

Clinical and Case Reports.

Torsion of the Bladder in a Dog.

By Prof. G. H. Wooldridge, F.R.C.V.S. (Royal Veterinary College, London).

Subject, black pomeranian dog, 5 or 6 years old, brought to me in a condition of collapse, with the history that he had been very ill and unable to stand for nearly a week. The owner thought the dog was affected with constipation, as he was constantly straining. On examination, the animal was found quite unable to stand or in any way to support his own weight, and in a state of semi-coma. The breathing was very slow and shallow, but easy, the pulse almost imperceptible, temperature 101·5° F.

On manipulation of the abdomen no indication of constipation could be detected. Rectal examination was then resorted to, but no fæces were discoverable. The prostate was, however, found to be somewhat enlarged—up to the size of a walnut. At the time of this examination, a swelling was observed in the perineum to the right of the anal rim, and was at first suspected of being a greatly distended anal gland. Pressure was applied to this swelling with a view to evacuating it, but it receded under the pressure, passing forward into the pelvis. As the dog was now held as though resting on his feet, he passed a quantity of urine, which fact led to further examination, and the discovery that the swelling was actually the bladder which had become twisted laterally backwards on itself.

Stimulants were administered and the bladder emptied, but the dog succumbed two hours after admission.

Post-mortem examination revealed an enlarged prostate of the size already mentioned, the anterior lobes of which were congested. There was also adhesion of the omentum to the anterior surface of the prostate, and evidence of recent hæmorrhage. The bladder was completely turned backwards on itself, the point of reflection being immediately in front of the prostate. The peritoneal coat of the bladder was hæmorrhagic, but there was no indication of cystitis. All the other organs were apparently normal.

Specific Ophthalmia.

By W. Hamilton Kirk, Capt. R.A.V.C., T.F., London, W. 1.

A recent article from the pen of Capt. Maquire under the above heading, proved to me most interesting and instructive, and served to carry back my memory to those seemingly far-off days when specific ophthalmia was so conspicuously in evidence among the cases under my charge. I also, was fortunate in having an "Ophthalmia Ward" in hospital, with power to test any theory or treatment of my own, or make whatever experiments which seemed expedient for the discovery of the etiology of the disease. But I fear that under the stress of all my other work, coupled with the absence of suitable means for experimenting, I made little or no progress. The condition was always spoken of as "Contagious Ophthalmia" and regarded officially as contagious, yet I have proved it to be quite the reverse. It was ubiquitous among horses, we know, but I hold that the cause of its onset in subsequent cases is the same medium as produces its appearance in primary ones. Many considered this to be some irritant or organism indigenous to the French soil, and that is my view; but I have always been puzzled as to why the disease should be so preponderatingly unilateral. If dust had caused it, one would expect both eyes to be affected.

Another theory was that the cause was to be found within the animal's body; indigestion, disordered liver or the generation of a toxin from within, etc. If so, why should not the disease appear in England as well as on the Continent?

At first it was thought that the calcium sulphide dips—through which many thousands of horses were plunged, either as a prophylactic or cure of skin disease—were the direct cause, from the irritating nature of the solution. This idea, however, was soon exploded, principally by the fact that here, again, the disease was unilateral, and would recur without repeating the dipping process.

My experience was that an affected horse could stand indefinitely alongside a healthy one without communicating the malady either then or at any subsequent time, notwithstanding the fact that the eye discharges became disseminated over posts, walls, mangers and food common to both animals.

During the time I was in charge of an ophthalmia ward, I tried many remedies, both internal and external, all, of course, being combined with a strict observance of hygiene, and I found that in nearly every case, a recovery could be effected in from 3 or 4 days to 3 or 4 weeks, depending upon the severity

of the attack. No mention was made by Capt. Maguire of the officially recommended treatment, in which tincture of iodine was injected into the supraorbital fat.

The object was apparently to produce an inflammation behind the eye and thus draw blood away from that organ, but I formed a very poor opinion of the results of this treatment. It was certainly not a specific.

The complaint is obstinately recurrent, and no matter by what method one attempts to effect resolution, no guarantee can be given against recurrence in any case. Unfortunately, all patients could not be traced, but in those instances where they could, I should estimate recurrence at about 50 per cent. Three or four attacks in the same eye usually conferred total blindness; but in any case, a cataract in larger or smaller degree was certain to remain in the eye. The disease caused great losses to our Army and to civilians at home, since no horse suffering from it or showing lesions of a former attack, could be either sent home or retained in the Army.

In fact, while I was V.O.-in-charge Animal Collecting Station at Cologne, it grieved me to have to consign to the butcher, fine, young heavy draught horses—perhaps blind in both eyes—but still well able to perform useful work. I remember, too, that the veterinary authorities on the spot strongly disapproved of the slaughter of many of these animals, and it was only the pressure brought to bear by the Remount Department that secured such wanton destruction. Before closing, I would like to challenge two of Capt. Maguire's statements. He says that conjunctivitis cannot be truly described as such unless there is a purulent discharge. Surely any membrane can be inflamed without necessarily discharging pus. In fact, I have always understood "suppurative conjunctivitis" to be a rare condition.

He next says iridocyclitis may be divided into simple, plastic, and purulent, and that the latter is rarest of all. Now, in my experience the purulent condition was very prevalent, and in many cases there appeared to be little other disturbance accompanying it. What I frequently found was a half-moon shaped layer of pus at the bottom of the anterior chamber, which took many weeks to disappear, but which seemed to cause the animal no annoyance, and give rise to no cloudiness of the aqueous humour, or keratitis.

The whole subject is very interesting to me, and I would be pleased to find more veterinary officers contributing their experiences, for the mutual benefit of all.

There was a large increase in the imports of fresh meat into Liverpool and Manchester during the week ending January 29th, from overseas ports. Five steamers landed a total of 200,713 sheep and lamb carcases, 4,482 carcases of pork, 2,607 boxes, etc., of meat, and 75,541 quarters of beef. The preceding week's arrivals totalled 28,518 sheep carcases, 3,077 carcases of pork, and 30,576 quarters of beef.

Association Reports.

Lancashire V.M.A.

A meeting was held at the Grand Hotel, Manchester, on Wednesday, 8th December, 1920, at 4 p.m. The chair was taken by the President, A. W. Noel-Pillers, Esq., F.R.C.V.S., Liverpool. Other members present were:—Messrs. E. H. Curbishley, J. B. Wolstenholme, W. A. Taylor, J. D. Whitehead, F. Hopkin, G. Mayall, J. H. Wright, J. Dobie, E. F. Wood, A. M. Michaelis, E. J. Burndred, J. Adamson, F. G. Edwards, J. H. Lomas, C. Wadsworth, J. Holroyd, W. Ackroyd, G. C. Lancaster, W. A. Berry, J. H. Carter, J. McKinna, R. H. Oddy, J. H. White, F. S. Warburton, E. L. Butters, F. Ball, O. A. Ducksbury, H. G. Hewetson, H. H. Lord, G. H. Locke, E. H. Stent, H. T. Hughes and J. Spruell (Hon. Secretary).

Apologies for unavoidable absence were received from Messrs. A. Lawson, W. Packman, J. R. Rigby, F. W. Garnett, J. Abson, C. Blackhurst and J. W. Brittlebank.

The minutes of the last meeting were read and approved.

Nominations.—Mr. A. Walker, W. Derby, Liverpool, proposed by Mr. A. W. Noel-Pillers.

Election of New Members.—It was proposed by Mr. G. H. Locke, seconded by Mr. A. W. Taylor and carried unanimously that the following gentlemen be elected members of the Association:— Messrs. W. Walker (Wigan); T. J. Kenny (St. Helens); and J. Maguire (Liverpool).

The Secretary read the letter and resolution from the Mid. West and South Wales Veterinary Association *re* admission of Professors as eligible to sit on the Examining Board. It was resolved that, as there were sufficient general practitioners among members of the Council to look after the general practitioners' interest, that the matter be left at present to the council of the R.C.V.S., but if a new Charter is necessary that it be submitted to the profession for approval.

The Secretary read the letter from the combined meeting of the Royal Counties, Southern Counties and South Eastern Counties Veterinary Associations and it was resolved to approve of the following resolution:— "In the opinion of the meeting, it was essential, for the protection of the public health, that a proper system of meat inspection should be arranged, that the veterinary surgeon was, by virtue of his training in the diseases of animals and their flesh, the best man to be utilised for the purpose.

It was proposed by Mr. McKinna, seconded by Mr. Mayall, and carried that the Annual Meeting and Dinner be held on the 28th January, 1921.

Mr. G. H. Locke proposed and Mr. E. L. Butters seconded that Mr. J. H. Carter be nominated candidate of the Association for election to the Council of the R.C.V.S. (Carried).

Interesting Cases.—Mr. H. G. HEWETSON exhibited specimens from a case which was diagnosed as lympho-sarcoma in the horse; and described a case of dilation of the œsophagus in a cow.

Mr. O. A. DUCKSBURY exhibited a teratomatous cryptorchid testicle.

Mr. J. B. WOLSTENHOLME exhibited a specimen of a horse's bladder, with lateral diverticula, and a specimen of a splenic abnormality, diagnosed as lympho-sarcoma, in a dog.

Mr. MAYALL exhibited a piece of ornamental stable-facing which had been swallowed, with fatal result, by a horse.—See forthcoming issue of *Record* for reports of these cases).

Equine Vaccine and Serum Therapy.—Mr. H. TUDOR HUGHES, B.Sc., F.R.C.V.S., Oswestry, read a paper on this subject. It was resolved to postpone the discussion until another meeting. Mr. Wolstenholme proposed, and Mr. Taylor seconded a vote of thanks to Mr. Hughes for his paper, which was carried unanimously.

JOHN SPRUELL, *Hon. Sec.*

Notes and News.

Royal College of Veterinary Surgeons.

The secretary begs to acknowledge the receipt of the following subscriptions to the R.C.V.S. for the present year:—

	£	s.	d.
Anderson, R. G., Cupar	1	1	0
Baxter, J. W., London, S.W. 1 (1920-1921) ...	2	2	0
Broadhurst, O. S., Stevenage	1	1	0
Carter, J. H., Henley-on-Thames	1	1	0
Collinson, W., Sheffield	1	1	0
Daly, J., Cork	1	1	0
De Vine, W. J. Brennan, Birmingham ...	1	1	0
Dickinson, W. A., Crowland	1	1	0
Edwards, J. A., Ambleside	1	1	0
Golledge, C. H., Sherborne	1	1	0
Golledge, L. St. B., Sherborne	1	1	0
Grasby, W. W., Daventry	1	1	0
Healy, J. F., Midleton	1	1	0
Holmes, J. T., Bourne	1	1	0
Holroyd, H., Blackburn	1	1	0
Holroyd, J., Blackburn	1	1	0
Howatt, J., Londonderry	1	1	0
Jones, T. H., Lampeter	1	1	0
King, H. A., Derby	1	1	0
Leach, E. H., Newmarket	1	1	0
Leach, H. H., Newmarket	1	1	0
Lepper, H. G., Aylesbury	1	1	0
Lepper, T. W., Aylesbury	1	1	0
Lord, H. H., Manchester	1	1	0
McDougall, W. A., Lt.-Col. R.A.V.C. ...	1	1	0
Marriott, S. J., Northampton	1	1	0
Marshall, J., Knutsford	1	1	0
Morgan, P. S., Ross-on-Wye	1	1	0
Neill, C. E., Southport	1	1	0
Parkin, H. J., East Ham	1	1	0
Penhale, R. E. L., Torrington	1	1	0
Reekie, W. W., London, W.1.	1	1	0
Reynolds, H. S., Daventry	1	1	0
Robertson, A. L., Bishopbriggs	1	1	0
Robinson, H. S., Liverpool	1	1	0
Sparrow, H. D., Rochford	1	1	0
Stent, E. H., Hulme	1	1	0
Taylor, J. H., Capt. R.A.V.C.	1	1	0
Watt, W., Wishaw	1	1	0
Whicher, A., Bexhill-on-Sea	1	1	0
Wilkinson, T., Junr., Lanchester, Durham (1920-1921)	2	2	0
Previously acknowledged	500	2	0
	£545	5	0

Royal College of Veterinary Surgeons—War Memorial.

	£	s.	d.	£	s.	d.
Trigger, W., Newcastle				3	3	0
Lancs. V.M.A.:—						
Elam, C. W., additional sub. ...	1	1	0			
Noar, W.	1	1	0			
Hughes, R.	2	2	0			
				4	4	0
Previously acknowledged				861	10	0
				£868	17	0

Foot-and-Mouth Disease.

Prosecution of Herefordshire Farmers Urged by Ministry of Agriculture.

A meeting of the Diseases of Animals Committee of the Herefordshire County Council was held on Wednesday, January 26th, to consider a letter from the Ministry of Agriculture recommending that prosecutions be instituted against certain persons stated to have been guilty of unduly delaying the notification of foot-and-mouth symptoms. It was decided to act in accordance with the Ministry's letter providing the Chief Constable was satisfied prima facie cases had been made out. Strong feeling against the continuance of hunting over areas affected by foot-and-mouth disease in the Ledbury district was evinced at the meeting, and much criticism was levelled at the members of the Ledbury Hunt, alleged to be frequent offenders in this direction. The possible dangers of such practice was emphasised, and the meeting resolved to wire the Ministry of Agriculture asking that meets of hounds be prohibited in infected areas until they were declared free of restriction. It was alleged that the Master of the Ledbury Hunt had failed to adhere to a promise not to hunt within five miles of an infected farm.

Prosecutions under Foot-and-Mouth Disease Order.

At Stow Police court on Thursday, January 27th, William Lardner Woolliams, farmer, of Adlestrop, was summoned for failing on December 17th to notify the Stow police with all practical speed of an outbreak of foot-and-mouth disease on his farm. It was not discovered until January 8th that defendant had had suspected cases on his farm, the discovery being the result of defendant having sold 21 cattle to a Mr. Colegrave at Banbury, in which locality there had been a big outbreak of the disease.

When served the usual forms by the police superintendent on January 8th, defendant said he had noticed that two or three of the cattle had been lame for about two or three weeks, that he had taken them from amongst the others and placed them in a separate field. The reason why he did not suspect the cattle of having the disease was because he thought it was caused by the frost and that they had travelled on the hard road. He had received a letter from Mr. Colegrave, of Banbury, to whom he had sold 21 cattle on December 18th, and in consequence on January 8th had called in a veterinary surgeon. The police superintendent received a report of the outbreak from another source, and on going to Stow found defendant had already notified the Stow police of the occurrence. At least half a dozen cows in the field were noticed to be lame.

Defendant's solicitor drew attention to the advice given in the Foot-and-Mouth Disease Orders as to the first symptoms of disease in cattle, viz., that sickness and frothing at the mouth were the first signs of the disease. There were no such signs in defendant's cattle, but only lameness. How, then, was defendant to know that his cattle were supposed to be suffering with foot-and-mouth disease?

Wm. S. Petrie, veterinary inspector to the Ministry of Agriculture, said that on his visit to defendant's farm he ordered 12 of defendant's cattle to be put into a shed for him to examine. He discovered six of the cattle were suffering from the disease and three of them had been affected for at least three weeks. He knew now that the beasts sent to Mr. Colegrave were from a different farm from where defendant's cattle were found affected, as Mr. Woollians had two farms.

Mr. Jelbart, veterinary surgeon of Stow, called for the prosecution, admitted that defendant had several times sent for him to look at the feet of his cattle, and it was only on January 8th that he found some of them suffering from foot-and-mouth disease.

Several witnesses were called for the defence to prove that information was immediately given to the police as soon as it was known that the cattle were affected with the disease.

After a lengthy hearing the case was dismised.—*Cheltenham Chronicle*, January 29th.

For an offence under the foot-and-mouth disease regulations, which were recently imposed at Carlisle, William Millican, of Hethersgill, farmer, was fined £25 and costs by the Carlisle magistrates on January 28th. Mr. Millican sent thirty sheep to Manchester, and as they did not fetch his price he ordered their return to Carlisle.

On arrival at the city, however, the Midland Railway Company, in accordance with the regulations, refused to allow the sheep to be moved, and as detention in pens would have caused depreciation, the animals were slaughtered. It was pleaded in defence that, as these sheep were moved from Cumberland in the first place, Mr. Millican considered at the time there was no offence. It was stated by the Chief Constable that at the present time hundreds of cattle and sheep were detained in the city and county.—*Yorkshire Post*, January 29th.

At the Sedgley Police Court on January 31st, T. Hawkesford, farmer, A. Cornmell, butcher and dealer, his drover, Joseph Overfield, and E. E. Wise, butcher, were summoned in connection with alleged contraventions of the Foot-and-Mouth Order (1920), by causing or assisting in the movement of cattle, without certificates, on various dates in January.

The case concerned nine fat beasts which were consigned by Hawkesford to Cornmell. Hawkesford obtained a license to move the beasts from Market Drayton to Cornmell's slaughterhouse. As a matter of fact, Cornmell had no slaughterhouse. It was intimated that Hawkesford had acted most probably in good faith, and the authorities were willing that the case against him should be withdrawn.

The cattle were put on the rail, and arrived at Dudley Station on January 8th. Subsequently Cornmell's man, Overfield, called for them, and later two were left at a place in Dudley, three were taken to the defendant Wise, and four remained on Cornmell's premises.

No certificates authorising these movements were obtained or applied for, and the fact that the cattle had been moved was discovered when the police sergeant, in the course of inquiries, went to Cornmell's premises, and discovered only four cattle there, instead of the nine consigned on the duplicate of Hawkesford's certificate received by the police.

Cornmell's solicitor said that he believed the cattle would be consigned to Birmingham, and had made arrangements for them to be received there. Correspondence in support of this statement was submitted to the Stipendiary. When Cornmell was notified by the railway authorities that the beasts had arrived in Dudley he did the best he could to accommodate them. He was not aware that he could obtain a license for their transfer to Birmingham, and as he did not like to leave them in the trucks he disposed of them in the manner already stated.

Cornmell was fined £5, and ordered to pay five guineas special costs; Wise was fined 40s. (two guineas special costs), and Overfield 20s. (one guinea special cost). The case against Hawkesford was dismissed on payment of two guineas special costs.—*Express and Star*, Wolverhampton, January 31st.

Government of India.
Army Department.

ARMY INSTRUCTION (INDIA).
No. 1007 of 1920.

DELHI,
14*th December*, 1920.

1007. FORMATION OF ARMY VETERINARY CORPS, INDIA.

The Right Honourable the Secretary of State for India has approved, in principle, the formation of an Army Veterinary Corps, India, which will combine in one organisation all personnel employed in the veterinary supervision of the animals of the army in India and engaged in their treatment.

2. The corps will eventually include and absorb:—
   (*a*) The establishment of officers, Royal Army Veterinary Corps, serving on a tour of Indian service.
   (*b*) The British warrant and non-commissioned officers of the Unattached List, Indian Veterinary Corps.
   (*c*) The veterinary assistants of the Indian Veterinary Corps, and those serving under agreements extra to establishment until absorbed or otherwise disposed of.
   (*d*) The veterinary establishments of Veterinary hospitals of remount depots.
   (*e*) The veterinary establishment of the Cavalry School at Saugor.
   (*f*) The clerical establishment of the Army Veterinary Service in India (provisionally).

3. The establishment noted in the preceding paragraph will be supplemented by the recruitment or transfer of the following to complete the total establishment of the corps:—
   (*a*) British other ranks, Royal Army Veterinary Corps detailed for a tour of Indian service.
   (*b*) Indian non-commissioned officers, including dressers.
   (*c*) Indian privates (grooms).
   (*d*) Indian artificers.
   (*e*) Sanitary establishments.

4. The other rank personnel of the corps will be divided into sections, each section being organised as a complete unit to deal with 250 sick animals. The establishment of a section is given in appendix I.

5. The number of sections to be maintained, calculated on the normal average percentage of sick animals, will be dependent on the strength of the post-bellum army in India.

6. Sections will consist of a headquarters and detachments as may be necessary. The personnel will be distributed over military stations and depots, the headquarters of sections furnishing the necessary personnel for, and being located in the class I station veterinary hospitals of, the larger military stations, detachments being provided for class II station and branch veterinary hospitals.

7. In the case of remount depots a section will be detailed for the veterinary hospitals of Mona and Sargodha depots conjointly, with headquarters at Mona. Similarly a complete section will be provided for Hapur and Saharanpore depots, with headquarters at Hapur. The depots of Ahmednagar and Hosur will be furnished with detachments from the sections located at Kirkee and Bangalore respectively.

Any alteration in the constitution of sections necessary to meet remount requirements or accommodation will be arranged between the Director of Veterinary Services and Director of Remounts.

8. Each section will be under the immediate command of an officer, Royal Army Veterinary Corps, who for purposes of discipline and finance will be the Commanding Officer of the section.

Officers, Royal Army Veterinary Corps, appointed to stations or depots where detachments are located will command such detachments subject to the control of the Officer Commanding the section.

9. Each section will be administered by the Deputy Assistant Director of Veterinary Services of the formation to which the section is allotted, or in whose area it is situated. This will also apply to those sections or detachments allotted to veterinary hospitals of remount depots.

10. The allotment and distribution of officers for administrative and executive duty, including those detailed for duty with the Army Remount Department, will remain as at present, excepting that the Deputy Assistant Director of Veterinary Services of a division or a first class district will be charged with administrative veterinary duty only.

Similarly the allotment and distribution of veterinary assistant will remain as at present.

11. Regulations to meet the above will be amended in due course.

12. A record office will be established at Poona, to deal with the personnel of the corps other than British Officers. The establishment is laid down in appendix II.

13. Two depots, Army Veterinary Corps, will be arranged, one at Ambala to supply units of formations in the Northern and Eastern commands, and the other at Kirkee to supply units in the Western and Southern commands. They will be affiliated to the station veterinary hospitals (class I.) of those stations, and the personnel of the hospitals will form the working staff of the depots. The depots will also have the advantage of the army veterinary schools at Poona and Ambala respectively for assistance in training.

All personnel on first appointment to the corps, on return from sick leave or from overseas for re-appointment and for discharge, etc., will be sent to the nearest Army Veterinary Corps depot for disposal.

14. The terms and conditions of service will be as set forth in appendix III.

15. The details of the scheme as outlined in the preceding paragraphs are provisional and subject to final approval by the Secretary of State. Provisional sanction is given to the formation of 15 Sections with the establishment shown in statement I. provided that only 50 per cent. of the Indian combatants provided for in that statement are to be employed until further orders.

13067 (Q.M.G.-II.).
D (ii).

A. SHAIRP, *Colonel.*
Offg. Secretary to the Government of India.

APPENDIX TO ARMY INSTRUCTION (INDIA) No. 1007 OF 1920.

APPENDIX I.

Establishment of a Section, Army Veterinary Corps, India.

Detail.	Officers.	Warrant Officers or Staff Sergeants.	Sergeants.	Corporals.	Veterinary Assistants.	Clerks.	Dafadars.	Naiks.	Dressers.	Privates (Grooms).	Shoeing Smiths.	Saddlers.	Cooks.	Bhisti.	Pakhali.	Sweepers	Total.	REMARKS.
British Establishment.																		
Officer Commanding ...	1(*a*)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	(*a*) A Major or Captain.
Warrant Officer or Staff Sergeant.	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Sergeants	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Corporals	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	2	
Indian Establishment.																		
Veterinary Assistants ..	...	..	..	...	2(*b*)	...	...	...	...	...	...	...	...	...	..	...	2	(*b*) One to be an Indian Officer.
Clerks	..	...	...	..	...	2(*c*)	...	...	..	...	...	..	...	...	...	...	2	
Dafadars	...	...	...	...	...	...	1(*d*)	...	...	...	...	...	...	...	...	...	1	(*c*) Also provides for Administrative Officers (Provisional).
Naiks...	...	...	...	...	...	..	...	2(*d*)	...	...	...	...	...	...	...	...	2	
Dressers (Naiks)	...	...	..	..	...	...	...	..	4(*d*)	...	...	...	...	...	...	...	4	
Privates (Grooms) ..	...	...	...	...	...	...	...	..	...	84	...	...	...	...	...	...	84	(*d*) May be Veterinary Assistants waiting absorption in Veterinary Assistant grades.
Shoeing Smiths (Privates)	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	
Saddlers	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	
Cooks	...	...	...	...	...	...	...	...	...	...	...	...	2(*e*)	...	...	...	2	
Sanitary Establishments ...	...	...	...	...	..	..	...	...	...	...	...	...	...	1	1	2	4	(*e*) For Indian establishments.
Total ..	1	1	1	2	2	2	1	2	4	84	2	1	2	1	1	2	109	

APPENDIX II.

Establishment of Army Veterinary Corps Record Office, Poona.

		Rs.	
Officer-in-charge Records. The Principal, Army Veterinary School, Poona, will perform this duty in addition to his own and will receive staff pay at ...		100	per mensem.
Indian clerical establishment.			
1	1st grade clerk	105—5—130	per mensem.
1	2nd „ „	80—4—100	„
2	3rd „ „	55—4—75	„
1	peon	10	„
Clothing allowance for the peon		25	per annum.

APPENDIX III.

Terms and conditions of service, Army Veterinary Corps, India.

BRITISH ESTABLISHMENT (Provisional only).

I. Warrant and non-commissioned officers, India Unattached List.—Conditions of service and pay and allowances as at present.

II. Non-commissioned officers, Royal Army Veterinary Corps.—Pay under Army Instruction (India) No. 323 of 1920, as modified by Army Instruction (India) No. 647 of 1920.

The normal tour of Indian service is for five years, but may be extended, if desired, up to 25 per cent. of total British establishment.

INDIAN ESTABLISHMENT.

III. Veterinary Assistants.—In accordance with Army Instruction (India) No. 511 of 1918.

IV. Clerks.—Pay and allowances in accordance with Army Instruction (India) No. 123 of 1920 and conditions of service as at present.

V. Dafadars, Naiks, Dressers (Naiks), and Privates, Shoeing-smiths, and Saddlers.—Men will be enrolled for 6 years on the active list and 4 years on the reserve, and, subject to the exigencies of the service, given the option of extending to 10 years on the active list and re-engaging to 15 and 18 years in the case of Privates and 21 years in the case of Dafadars, Naiks and Dressers (Naiks).

The pay will be as follows:—	Rs.	
Dafadar	25	per mensem.
Naik	19	„
Dresser (with rank of Naik)	19	„

	Rs.
Private	15 per mensem.
Shoeing Smith (with rank of Private)	22 ,,
Saddler (with rank of Private)	18 ,,

Good service and good conduct pay at the rates admissible for corresponding ranks of Indian infantry units.

Field service batta will be allowed at combatant rates, when admissible.

Free rations (including firewood) will be allowed as for Indian troops.

Long service and good conduct medals will be allowed on a scale of two medals with gratuity and one without gratuity annually for every 900 men under the conditions laid down in Army Regulations, India, Volume I, paragraphs 1000—1004.

Indian Order of Merit.—The allowance attached to this Order will be admissible on the scales laid down in Army Regulations, India, Volume I, paragraph 1006, as reconstructed by October Appendix to India Army Order 1916.

Furlough and leave concessions will be admissible as for combatants under Army Regulations, India, Volume II. The number of men per section allowed leave at the same time under paragraph 264-A. will not exceed 15 per cent.

Pensions and gratuities as laid down in Army Regulations, India, Volume I, for corresponding ranks of mule transport units, a private being considered for the purpose as corresponding to a driver.

Clothing Allowance at the rates admissible for corresponding ranks of mule transport units. The personnel will also be eligible for allowances on the combatant scale for—

(*i*) the provision of foreign service clothing (Army Regulations, India, Volume XI, paragraph 162);

(*ii*) the provision and maintenance of additional warm clothing on the North-West Frontier (Army Regulations, India, Volume XI, paragraphs 164—166).

Accommodation will be on authorised scale as arranged locally. Hospital accommodation will be in accordance with Army Instruction (India) No. 1343 of 1918.

V I. Cooks, bhistis, pakhalis and sweepers. — Terms and conditions of service are under consideration, but for the present they should be employed under the terms prescribed in Army Instruction (India) No. 318 of 1919.

Canadian Cattle Embargo.—The question of the admission of Canadian store cattle into England was discussed at the meeting of the council of the Royal Agricultural Society of England, held on February 2nd. The Veterinary Committee of the council had recommended the council to reaffirm a resolution deprecating any proposals to repeal the Diseases of Animals Act, 1896.

Lord Northbrook, in moving the adoption of the committee's recommendations, said that those who opposed the introduction of Canadian cattle were not casting a stigma or discredit on the live stock of the Dominion. The protection of the cattle-breeding industry was a political matter in which the council had no concern; but as an agricultural society they had a right to ask for protection from the risk of the introduction of disease, and to protest against any proposals for the repeal of the Act on which they depended to a very large extent for their security.

A resolution strongly reaffirming the council's previous declarations was passed, together with the decision not to attend the Guildhall Conference which has been called in support of the removal of the embargo.—*Times*, February 3rd.

Cattle Plague in Belgium.—Two cases of cattle plague were detected on January 3rd, 1921, at Vallezeele (Brabant). Animals that had been exposed to infection were immediately slaughtered. The origin of the disease could not be traced.

Draft Regulations under the Dangerous Drugs Act.—At a meeting of the Council of the Pharmaceutical Society, held on February 2nd, it was decided to press the Government to withdraw these regulations, with a view to the re-drafting of them on lines suitable and satisfactory to pharmacy and the different interests concerned. The crusade against the Draft Regulations has received a powerful impetus from the British Medical Association, the British Dental Association, the Royal College of Veterinary Surgeons, and Farmers' and other organisations, which are all solidly united in the denunciation of the Draft Regulations as unworkable, and in the demand for the withdrawal of them, so that they may be recast on rational lines.—*Pharmaceutical Journal*, February 5th.

Meat Imports, 1920.

Imports of Fresh Meat and Bacon for Twelve Months ended December, 1920.

	Beef. *cwts.*	*Mutton.* *cwts.*	*Pork.* *cwts.*	*Bacon.* *cwts.*
United States ...	224,661	—	154,906	3,362,264
Uruguay ...	803,330	32,161	—	—
Argentina ...	6,537,418	758,734	—	—
Australia ...	836,989	2,257,875	—	—
New Zealand ...	870,988	3,075,128	—	—
Other Countries	587,301	229,619	316,007	52,283
Denmark ...	1,150	—	—	704,075
Canada	—	—	—	1,493,008
Netherlands ...	—	54,413	31,276	—
Total	9,861,837	6,407,930	502,189	5,611,630
,, 1919 ...	6,492,120	4,074,956	136,189	8,280,923
,, 1918 ...	7,588,784	2,086,148	99,654	10,473,562
,, 1917 ...	6,125,603	2,569,059	161,427	6,567,574
,, 1916 ...	7,056,191	3,636,563	293,333	7,435,955
,, 1915 ...	8,601,687	4,707,859	269,305	6,523,377
,, 1914 ...	8,844,567	5,199,731	861,203	5,098,080
,, 1913 ...	9,203,310	5,330,290	494,264	4,857,890

Values.

	1920. £	1919. £	1918. £
Beef	45,155,697	30,632,644	36,081,255
Mutton	26,816,952	17,957,556	9,273,646
Pork	3,719,189	889,975	685,973
Bacon	50,367,469	73,589,300	90,381,595
	126,059,307	123,079,475	136,422,469

The total value of imports of 1917 was £76,627,953, of 1916 was £72,103,263, of 1915 £65,948,554, of 1914 £51,056,971, and 1913 £45,776,086.—*Meat Trades Journal*, January 20th.

Pig-keeping to provide bacon during the days of scarcity in 1918 proved disastrous at the Hitchin Rural District Council's piggeries. In a report to the Council a total loss was shown of £682. The Council went into the enterprise in response to the Government's appeal to economise by using up all waste foodstuffs. One hundred pigs were purchased and put in handsome piggeries at Baldock, near Hitchin. An expert land girl, who had the advice of several experienced farmers, was put in charge, and the experiment prospered until October, 1919.

"Two small pigs died during the night, and a number of others were off their feed," was the first hint of tragedy in the record of the piggeries. On the same day "nine small pigs had to be killed and three others died," and eventually 95 pigs, valued at £700, either died or were killed. Tracing the trouble to meal with which the pigs had been fed, the analysts differed as to the deleterious element, and no further action was taken.

The pig-keeping committee's accounts were passed, with the remark, "It's a bad job, but it's done with."—*Daily Chronicle.*

The Scottish Animal Diseases Research Association.

The first meeting of the Joint Committee of Investigation into Animal Diseases was held in the Highland and Agricultural Society's Chambers, 3 George IV. Bridge, Edinburgh, on Wednesday, 19th January, Mr. Andrew Linton, president of the association, presiding.

The proposal for the composition of the committee, as approved by the Board of Agriculture for Scotland and the Development Commissioners, having been read, the meeting proceeded with the co-option of six additional members to complete their number. The full committee is now as follows:—

Members Originally Appointed.—Mr. Andrew Linton, Gilmanscleugh, Selkirk; Mr. Colin Campbell of Jura, Jura House, Argyll; Dr. Charles Douglas of Auchlochan, Lesmahagow; Mr. Charles W. Grieve, Branxholme Park, Hawick; Lieut.-Colonel W. T. R. Houldsworth of Kirkbride, Maybole; Mr. Thomas Kirk of Abbey Mains, Haddington; Mr. T. M. Macdonald of Barguillean, Taynuilt; Mr. Peter M'Intyre, Tighnablair, Comrie; Mr. J. R. C. Smith, Mowhaugh, Kelso; Sir Hugh Shaw Stewart, C.B., of Greenock and Blackhall, Bart., Ardgowan, Inverkip; Mr. A. M'Callum, M.A., LL.B., Board of Agriculture for Scotland; Mr. James Wood, M.A., B.Sc., Board of Agriculture for Scotland; Professor O. Charnock Bradley, M.D., D.Sc., M.R.C.V.S., Principal, Royal (Dick) Veterinary College, Edinburgh; and Professor S. H. Gaiger, F.R.C.V.S., Principal, Glasgow Veterinary College.

Co-opted Members.—Mr. Jas. Gardner, South Hillington, Cardonald; Dr. R. Stewart MacDougall, F.R.S.E., 9 Dryden Place, Edinburgh; Mr. C. S. M'Kerrow, Boreland of Southwick, Dumfries; Professor Robert Muir, M.A., M.D., University of Glasgow; Mr. Douglas Oliver (Andrew Oliver and Son), Hawick; and Mr. Robert Park, Brunstane, Portobello.

After considerable discussion, the outlines of a general programme of investigation was agreed on, and a small sub-committee was appointed to draw up the scheme for presentation to the Development Commissioners, with a view to securing the promised financial support.—*Scottish Farmer*, January 29th.

On January 22nd a special meeting of the Cork County Committee of Agriculture was held for the purpose of discussing the subject of contagious abortion in cattle, a disease which, it was stated, was yearly becoming more widespread, and was a great menace to the dairy industry. Messrs. Healy and Daly, Veterinary Surgeons, gave evidence before the committee. It was decided to call upon the Department of Agriculture to speed up research work with a view to stamping out the disease, and to seek financial assistance from the Department with a view to securing the services of veterinary surgeons for lectures to farmers.

The closing lecture of the present course in connection with the Glasgow and West of Scotland Agricultural Discussion Society will be given by Professor John R. M'Call, M.R.C.V.S., of the Glasgow Veterinary College; the subject will be "Unsoundness in Horses."

The national conference which is being called by the Cattle Markets Committee of the Corporation of London to consider the removal of the embargo on Canadian store cattle will take place at the Guildhall on March 9th.

At Blackburn, on February 2nd, John Boardman, a boatman, of Wigan, was fined £2 and £1 advocate's fee for failing to notify the case of a horse with advanced parasitic mange. In consequence of its being placed in a certain stable two other horses had had to be destroyed.

Many farmers are still unconvinced that the land tractor is better adapted to their needs than horses, and there has been recently a noticeable change in favour of the horse, which cannot be accounted for wholly by natural predilection for the animal.—*Times*, January 31st.

Vienna Veterinary Relief Fund.

The following letter has been received by the Secretary of this Fund from the President of the Vienna Association of Veterinary Surgeons:—

Verein der Wiener Stadtischen Amtstierartze.

WIEN, 10*th January*, 1921.

Honoured Sir,—I beg leave to inform you that I received the sum of K.17,600. The whole membership wishes me to express their deepest gratitude to you for the amount of trouble you have taken in procuring the sum and at the same time to the honoured members of the R.C.V.S. that have sent it.

The money was used to buy victuals for distribution among the members of the Vienna Association of Veterinary Surgeons.—Yours respectfully, DR. FRANZ HUOLIK.

R.C.V.S. Election.

The two following names for nomination to council are in addition to the names published in the *Veterinary Record* of January 15th:—

J. McI. McCALL, M.B., C.M., M.R.C.V.S., Ministry of Agriculture.

Proposers: J. McKinna and W. J. Young.

MAJOR P. J. SIMPSON, D.S.O., F.R.C.V.S., Maidenhead.

Proposers: Sir Layton J. Blenkinsop and G. P. Male.

The "revised list" published on January 22nd (page 85), we regret to state, was not quite correct, as it does not contain, as it should have contained, the name of Dr. J. McI. McCall.

During December last there were 54 outbreaks of tuberculosis in cattle brought under the notice of the Veterinary Branch of the Department of Agriculture and Technical Instruction for Ireland.

Correspondence.

Letters to the Editors should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

Veterinary Inspection of Exported Decrepit Horses.

Sirs,—The enclosed cutting may interest you. Is not the sentence, "The Board of Agriculture has instituted veterinary inspection (for what it is worth) . . ." rather ambiguous, and does it not tend to mislead the public into the belief that veterinary inspections are unreliable, owing, perhaps, to incompetence or even collusion on the part of the veterinary inspectors?

I have written and protested the point with Mr. M. K. Matthews, of the National Equine Defence League.

However, it is the appearance of such irresponsible notices in the lay papers which sometimes gets veterinarians into undeserved disrepute.—Yours faithfully,

HAMILTON KIRK, M.R.C.V.S.

67 Wigmore Street, Portman Square, W., January 31st, 1921.

The following is the cutting referred to:—

ARE YOU A HORSE LOVER?

Mr. M. K. Matthews, hon. secretary of the National Equine Defence League, writes to the *Daily Express*:—

"Belgian horse dealers are working with English dealers of the lowest class all over the country buying up horses at any price from £2. The Board of Agriculture state that they have instituted veterinary inspection (for what it is worth) at eight ports; therefore, the worst cases go from uninspected ones, and the horses are sold secretly and travelled and shipped at night and early morning.

"The Board of Agriculture assure us that they are extremely anxious to obtain proofs of this abuse, and all who are anxious and able to help by collecting these proofs

are earnestly urged to do so, and to communicate with me at 27 Beaconsfield Road, New Southgate, N. 11. Information supplied should be exact in every particular as to time, conditions, and description."

Meat Inspection.

Sirs,—*Re* your leading article on "Meat Inspection," in your issue of the 29th January, may I say I think it is surely time that veterinary surgeons should be much more appreciated and employed as meat and dairy inspectors than they appear to be at the present time. My own experience as veterinary inspector to the Minehead Urban District Council of their dairy cattle and meat inspector "Public Slaughter-house" for the period of six years and three months was that I never had a single complaint or misunderstanding during that time, either with the Council or the dairy cattle owners. When I left my successor was appointed, and owing to the circumstances of the disposal of my practice, I was only able to give one week's notice to the Council, instead of the necessary quarter's notice, and within ten days of my taking up the practice here I took it as a very happy surprise to receive my usual quarter's salary. In this town my services have not been required by the Borough or Medical Officer of Health during the period of one year and seven months.

W. G. SENIOR, M.R.C.V.S.

Weymouth, January 31st, 1921.

The Diploma R.C.V.S. or "Its Equivalent."

Sirs,—Will the Parliamentary Committee give a ruling on the advertisement which appeared in your issue of October 16th, for the appointment of District Veterinary Surgeon under the Union of South Africa Government. It is to the effect that applicants must hold the diploma of the R.C.V.S. or "*Its Equivalent.*"

Surely the diploma R.C.V.S. is sufficiently plain and I fail to see what its "equivalent" is. We have a one portal entrance to the Profession through our diploma and if an "equivalent" is to be created as a precedent I should be glad to know what it is.

There is too much "equivalent" business going on at the present time. It is "the Diploma or nothing" that is our safeguard and the sooner our Council impress this on the various Governments concerned the better.

The struggle to get our bill through showed sufficiently plainly that the non-qualified menace is a real one. The attitude of the Medical Profession to Barker the Bonesetter is the only one that will maintain our prestige and the sooner our ruling body adopts this the better. We have a right to be protected from "equivalents" and we claim it.—I remain, yours faithfully, H. G. SIMPSON, F.R.C.V.S.

Penang, *December* 30th, 1920.

R.C.V.S. Council Election.

To The Fellows and Members of R.C.V.S.

Having been approached on several occasions, and by several members, to allow myself to be nominated as a candidate for a seat on the Council of the Royal College of Veterinary Surgeons, I have at length consented to do so.

In asking for your support at the forthcoming election. I would like to put forward my views on certain subjects.

I stand for progress in matters educational, both as regards the matriculation and professional examinations. I have always been a supporter of the Veterinary Surgeons (Amendment) Act and hope the added funds that this will produce will be of aid in furthering the interests of the profession generally, but at the same time I am adverse to rushing into expensive schemes, such as new buildings, piece-meal alterations of our charters, &c., until the College possesses a balance sheet clear of all deficits and showing a substantial reserve fund.

I am not adverse to Professors acting as internal examiners to their own students, provided that there is a majority of external examiners acting with them, and that the scheme throws no extra expense on the funds of the College.

When opportunity arises I shall always support the better remuneration of veterinary officials, who are, generally speaking, very inadequately paid for the services they render, and I will at all times try to secure the advance of the veterinary profession from the social, educational and financial aspect.

Being a member of the National, Royal Counties, Central, and Southern Counties Veterinary Societies, the Royal Sanitary Institute and other bodies closely connected with the Profession and being a fairly regular attendant at their meetings, I feel I am in a position to keep in touch with the needs of all classes without fear or favour to the best of my ability. Also as a senior member of the R.A.V.C., T.F., I will do my best to guard the rights and privileges of that Corps.

In again asking you for your support I will conclude by saying that (with the full concurrence of my nominator and seconder) if elected I shall enter the Council as an Independent, and, I shall maintain that attitude as long as the members of the veterinary profession intimate, by electing me to their Council, that they require my services.—I am, your obedient servant, P. J. SIMPSON, F.R.C.V.S., Shirley, Maindenhead, *Februgry 2nd*, 1921.

Parliamentary and General Purposes Committee.

Sir,—On reading your editorial comments on the action of the above committee, in relation to their action in reply to the request of the Meat Inspection Committee for witnesses from the R.C.V.S., I am moved to ask if it is possible for the whole matter to be published in the V.R.

I feel that many practitioners are conscious of the same emotions as myself, viz., that the matter has been sadly mishandled and a good opportunity lost for the furthering of our interests.

The sooner the blunderers are rendered innocuous and their places taken by men who have the good of the profession at heart the better for the G.P.—Yours etc., SONIAN.

29th January, 1921.

Army Veterinary Service.

THE LONDON GAZETTE. WAR OFFICE—REGULAR FORCES.

The following relinquish their commissions on completion of service:—Temp. Capts., and are granted the rank of Major:—G. W. Dunkin (August 2nd, 1919); W. H. James, D.S.O. (November 24th, 1919). Temp. Capts., and retain the rank of Capt.:—J. Anderson (September 16th, 1919); S. C. J. Bennett (October 26th, 1919); T. J. Bosworth (October 14th, 1919); P. Braid (August 17th, 1919); M. J. Brett (November 8th, 1919); R. Burriss (September 23rd, 1919); F. Christopher (September 25th, 1919); J. D. Coutts (August 1st, 1919); H. V. Dier (October 22nd, 1919); J. Edgar (November 25th, 1919); J. T. Evans (November 13th, 1919); W. F. Fennelly (November 1st, 1919); M. J. Flynn (November 1st, 1919); R. C. Glover (August 19th, 1919); T. Grahame (October 15th, 1919); D. G. Grealy (November 1st, 1919); T. S. Hunter (October 29th, 1919); P. Haugh (September 2nd, 1919); H. Hicks (September 16th, 1919); W. Hill (October 12th, 1919); H. T. Hughes, F.R.C.V.S. (August 15th, 1919); G. Howie (October 15th, 1919); R. Isherwood (October 17th, 1919); W. D. John (September 24th, 1919); J. W. Knowles (October 31st, 1919); J. Litt (October 23rd, 1919); G. McElligott (October 21st, 1919); J. B. Mackie (July 30th, 1919); T. D. M. Martin (November 7th, 1919); F. D. Neal (November 18th, 1919); W. Neilson (November 8th, 1919); J. E. Porrett (September 13th, 1919); W. P. Power (August 5th, 1919); W. Reidy (October 18th, 1919); E. B. Reynolds, O.B.E. (September 2nd, 1919); H. F. Reynolds (August 17th, 1919); J. P. Rice (October 15th, 1919); A. L. Robertson (October 30th, 1919); H M. Roemmele (October 24th, 1919); W. Scott (April 2nd, 1919); W. Urquhart (September 23rd, 1919); W. A. Williams (August 14th, 1919); D G. Wishart (October 24th, 1919); J. H. Yates, O.B.E. (October 21st, 1919).

FEBRUARY 1ST.—TERRITORIAL FORCE.

The following Majors to have precedence in the T.F. as from July 31st, 1920 :—C. E. Neill, H. Peele, H. C. Jagger, O.B.E., W. N. Jurgensen, F. W. C. Drinkwater, A. Robb, Junior.

The following Capts. to have precedence in the T.F. as stated against their names :—J. E. Young, M.C. (September 15th, 1915) ; R. C. G. Hancock (October 9th, 1915) ; W. A. Macgregor, Jnr. (July 20th, 1916) ; G. Green (October 1st, 1916) ; H. W. Stevens (September 1st, 1917) ; W. Cawthorn (September 1st, 1917).

Capt. A. Walker is appointed to command a Veterinary Hospital (February 2nd).

W. S. King to be Lieut. (January 26th).

FEBRUARY 3RD.—REGULAR FORCES.

R.A.V.C.—Major and Bt. Lieut.-Col. E. J. Wadley, C.B.E., D.S.O., retires on retired pay (February 4th), and is granted rank of Lieut.-Col.

FEBRUARY 4TH.—REGULAR FORCES.

Temp. Capt. G. D. Norman relinquishes actg. rank of Maj. on ceasing to hold the appt. of D.A.D.V.S. (Dec. 16, 1920).

The following Capts. to be actg. Majs. while holding the appt. of D.A.D.V.S. :—W. H. Walker, D.S.O. (from April 28 to Dec. 4, 1920) ; V. C. Leckie, D.S.O. (from July 10 to Dec. 11, 1920).

AWARD BRITISH OTHER RANK.

(Extract from *Gazette* of India, Notification No. 2403 dated 4th December, 1920).

In recognition of his valuable services rendered in India, in connection with the War, dated 12th February, 1920.

Medal of the Most Excellent Order of the British Empire (Military Division) Indian Veterinary Corps.

31. Palmer, No. 26775 Farr. Q.M.S. Albert Victor (India).

AWARD INDIAN MILITARY. PERSONAL (VETERINARY ASSISTANT).

(Extract from *Gazette* of India, Notification No. 2403, dated 4th December, 1920).

In recognition of his valuable services rendered in India, in connection with the war.

To be member of the Military Division of the Most Excellent Order of the British Empire.

32. Hem. Raj. Jemadar (S. and T. Corps) I.A., Veterinary Assistant, attached Army Veterinary Corps, India. No. 23818/Q.M.G. 11, Simla, the 8th January, 1921.

Personal.

A wedding took place on December 16th, 1920, at the Cathedral, Salisbury, S. Rhodesia, between Lieut. Francis Arthur Hopkins, M.B.E. and Miss Theodora Joan Owen Williams, only daughter of the late Professor Owen Williams, Edinburgh, and of Mrs. Owen Williams, of Hillside, and sister of the late Mr. Rowland Williams, M.R.C.V.S., Salisbury, who was well known for his untiring work during the influenza epidemic, from which he lost his life. The ceremony was performed by the Ven. Archdeacon Etheridge, assisted by the Rev. Canon Parker. The bride was given away by Mr. Honey, in the absence of her brother Mr. Edward Owen Williams, at the Engineers Conference. Mr. Dalby was best man.

The couple spent their honeymoon at Meikle's Hotel prior to their leaving for Beira and Fort Jameson, where they are to make their home.—*Rhodesia Independent.*

Diseases of Animals Acts, 1894 to 1914. Summary of Returns.

Period.	Rabies. Cases Confirmed. Dogs.	Rabies. Cases Confirmed. Other Animals.	Anthrax. Outbreaks confirmed.	Anthrax. Animals attacked.	Foot-and-Mouth Disease. Outbreaks confirmed.	Foot-and-Mouth Disease. Animals slaughtered as diseased or exposed to infection.	Glanders (including Farcy).* Outbreaks reported by the Local Authorities.	Glanders (including Farcy).* Animals attacked.	Parasitic Mange. Outbreaks reported by the Local Authorities.	Parasitic Mange. Animals attacked.	Sheep Scab. Outbreaks reported by the Local Authorities.	Swine Fever. Outbreaks confirmed.	Swine Fever. Swine slaughtered as diseased or exposed to infection
GT. BRITAIN.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Week ended 5th February, 1921	1	...	9	12	1	...	2	4	86	146	27	17	2
Corresponding Week in 1920	...	...	16	20	2	143	2	2	149	267	16	41	12
1919	...	...	3	6	2	56	...	...	154	232	20	17	2
1918	...	...	6	6	...	...	...	...	157	288	13	12	3
Total for 6 weeks, 1921	11	1	92	113	22	2143	2	4	567	910	208	149	35
Corresponding period in 1920	2	...	59	68	26	1420	5	8	986	1849	156	264	94
1919	15	1	26	30	14	800	...	...	1022	2167	123	106	36
1918	...	...	41	50	...	...	2	3	819	1825	126	96	30

NOTE.—The figures for the current year are approximate only. *Excluding outbreaks in Army horses.

IRELAND.									Outbreaks				
Week ended 29th January, 1921	...	...	...	...	...	...	...	...	...	15	2	20	
Corresponding Week in 1920 ...	...	...	...	...	...	...	1	2	4	15	1	2	
1919 ...	...	...	...	...	...	...	...	...	2	14	...	...	
1918 ...	...	...	...	...	...	...	...	...	7	8	...	...	
Total for 5 weeks, 1921	...	...	1	14	...	...	...	...	14	59	5	37	
Corresponding period in 1920 ...	...	...	...	...	1	2	21	51	1	4			
1919 ...	...	...	...	...	...	...	11	71	5	13			
1918 ...	...	...	...	...	...	...	21	58	1	1			

NOTE.—The figures for the current year are approximate only.

Department of Agriculture and Technical Instruction for Ireland (Veterinary Branch), Dublin, 31st January, 1921.